

SCREENING SITE INSPECTION REPORT
FOR
OHIO POWER CO., PHILO PLANT
PHILO, OHIO
U.S. EPA ID: OHD980423347
SS ID: NONE
TDD: F05-8805-020
PAN: FOH0828SB

US EPA RECORDS CENTER REGION 5



461236

MARCH 28, 1991



ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

recycled paper

SIGNATURE PAGE
FOR
SCREENING SITE INSPECTION REPORT
FOR
OHIO POWER CO., PHILO PLANT
PHILO, OHIO
U.S. EPA ID: OHD980423347
SS ID: NONE
TDD: F05-8805-020
PAN: FOH0828SB

Prepared by: Rod Hackler Date: 4/4/91
Rod Hackler
FIT Report Preparer
Ecology and Environment, Inc.

Reviewed by: Randy Carlywine for Tim Danzer Date: 4/4/91
Tim Danzer
FIT Assistant Unit Manager
Ecology and Environment, Inc.

Approved by: Mary Ann Lipp for JDO Date: 4/8/91
Jerome D. Oskvatek
FIT Office Manager
Ecology and Environment, Inc.

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
1	INTRODUCTION.....	1-1
2	SITE BACKGROUND.....	2-1
	2.1 INTRODUCTION.....	2-1
	2.2 SITE DESCRIPTION.....	2-1
	2.3 SITE HISTORY.....	2-1
3	SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS.....	3-1
	3.1 INTRODUCTION.....	3-1
	3.2 SITE REPRESENTATIVE INTERVIEW.....	3-1
	3.3 RECONNAISSANCE INSPECTION.....	3-1
	3.4 SAMPLING PROCEDURES.....	3-4
4	ANALYTICAL RESULTS.....	4-1
5	DISCUSSION OF MIGRATION PATHWAYS.....	5-1
	5.1 INTRODUCTION.....	5-1
	5.2 GROUNDWATER.....	5-1
	5.3 SURFACE WATER.....	5-3
	5.4 AIR.....	5-4
	5.5 FIRE AND EXPLOSION.....	5-5
	5.6 DIRECT CONTACT.....	5-5
6	REFERENCES.....	6-1

Table of Contents (Cont.)

<u>Appendix</u>		<u>Page</u>
A	SITE 4-MILE RADIUS MAP.....	A-1
B	U.S. EPA FORM 2070-13.....	B-1
C	FIT SITE PHOTOGRAPHS.....	C-1
D	U.S. EPA TARGET COMPOUND LIST AND TARGET ANALYTE LIST QUANTITATION/DETECTION LIMITS.....	D-1
E	WELL LOGS OF THE AREA OF THE SITE.....	E-1

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
2-1	Site Location.....	2-2
3-1	Site Features.....	3-3
3-2	On-Site Soil/Sediment Sampling Locations.....	3-5
3-3	Off-Site Soil/Sediment Sampling Locations.....	3-7

LIST OF TABLES

<u>Table</u>		<u>Page</u>
4-1	Results of Chemical Analysis of FIT-Collected Soil/Sediment Samples.....	4-2

1. INTRODUCTION

Ecology and Environment, Inc., Field Investigation Team (FIT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Ohio Power Co., Philo Plant (Philo Plant) site under contract number 68-01-7347.

The site was initially discovered in June 1971, when Ohio Power Company filed an application with the Army Corps of Engineers for a permit to discharge wastewater (Ohio Environmental Protection Agency [OEPA] 1976). The Army Corps of Engineers subsequently turned over Ohio Power Company's application to OEPA for its consideration. In 1972, OEPA treated Ohio Power Company's application as an application for a National Pollutant Discharge Elimination System [NPDES] permit.

The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Lori Marsh of the Southeast District Office of OEPA and is dated September 23, 1987.

FIT prepared an SSI work plan for the Philo Plant site under technical directive document (TDD) F05-8805-020, issued on May 12, 1988. The SSI work plan was approved by U.S. EPA on January 19, 1990. The SSI of the Philo Plant site was conducted on February 20, 1990, under amended TDD F05-8805-020, issued on February 6, 1990.

The FIT SSI included an interview with site representatives, a reconnaissance inspection of the site, and the collection of six soil samples and four sediment samples.

The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP [no further remedial action planned], or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA [Resource Conservation and Recovery Act].... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI. (U.S. EPA 1988)

U.S. EPA Region V has also instructed FIT to identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

2. SITE BACKGROUND

2.1 INTRODUCTION

This section presents information obtained from SSI work plan preparation, the site representative interview, and the reconnaissance inspection of the site.

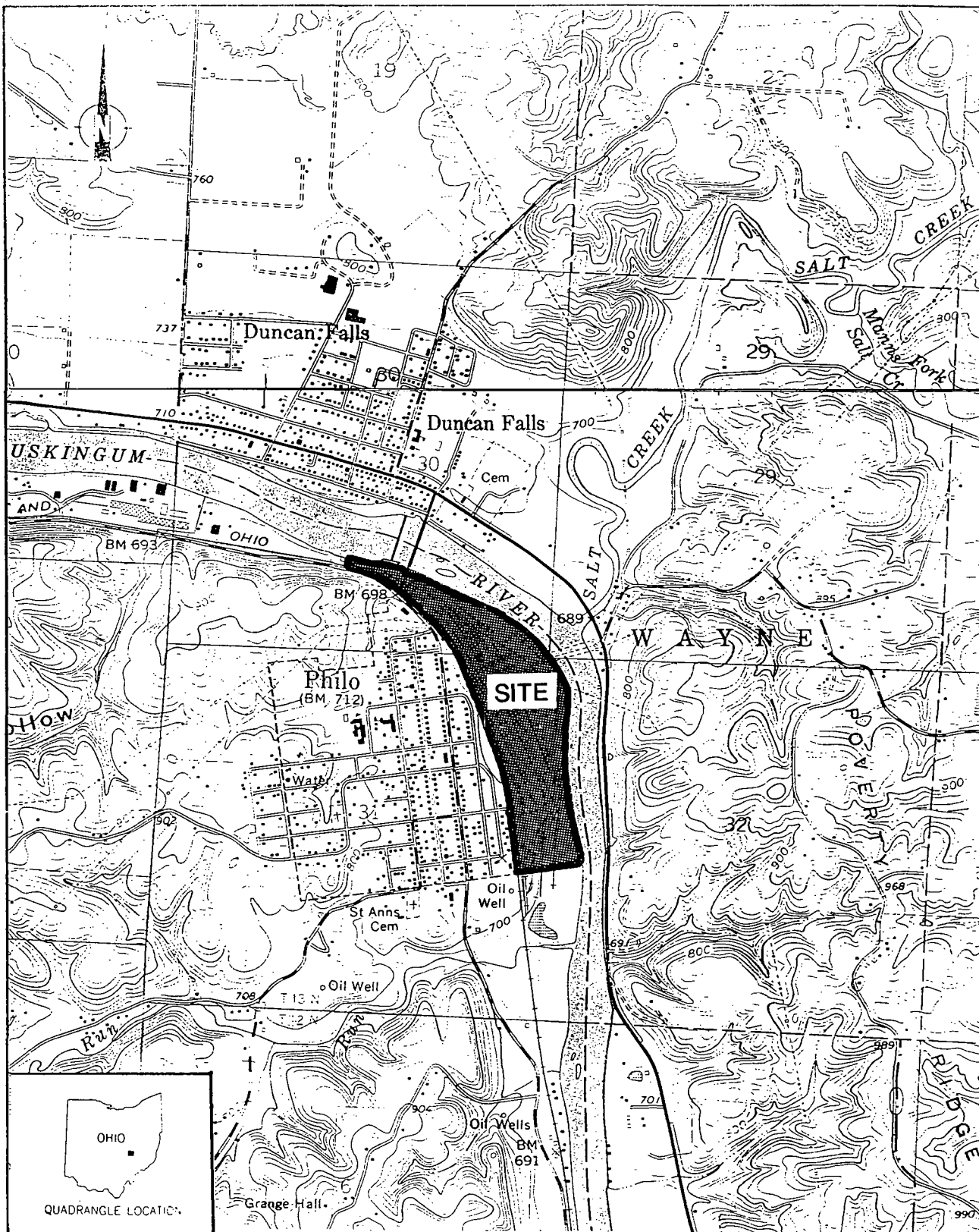
2.2 SITE DESCRIPTION

The Philo Plant site is an inactive coal-fired steam electrical power generating facility. The site facility, which has since been demolished, was operated by Ohio Power Company, which is part of the American Electric Power (AEP) system. During its years of operation, the facility was referred to as the "Philo Plant." The site is approximately 114.7 acres in size and is located immediately east of the town of Philo, Ohio, in Harrison Township, Muskingum County (SE1/4NE1/4NE1/4 sec. 31, T.13N., R.12W.). The Philo Plant site is located in a primarily residential area and is bordered on the east by the Muskingum River and on the west by County Road 6 (see Figure 2-1 for site location). The site is located on a wide, level floodplain.

A 4-mile radius map of the Philo Plant site is provided in Appendix A.

2.3 SITE HISTORY

The Philo Plant site is currently owned by the Ohio Power Company. The Ohio Power Company operated an electrical power generating facility from October 1924 until May 31, 1975. The facility burned coal in order to generate the steam necessary to drive the turbines that generate



SOURCE: USGS, Philo, OH Quadrangle, 7.5 Minute Series, 1961, Photorevised 1975; Zanesville East, OH Quadrangle, 7.5 Minute Series, 1961, Photorevised 1972 and 1975.

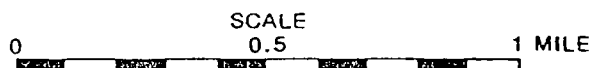


FIGURE 2-1 SITE LOCATION
2-2

electricity. Water from the Muskingum River was used as cooling water and then discharged back to the river through two discharge points (Wright and Sheets 1990). On-site disposal pits were filled with burnt coal ash. Two bottom ash pits and one fly ash disposal area were operated on-site. An outfall from the two bottom ash pits and an outfall from the fly ash disposal area, both to the Muskingum River, existed on-site. The disposal pits were unlined and uncapped (Wright and Sheets 1990).

The Ohio Power Company closed the facility in 1975 because of the high costs required to modernize the facility in order to bring it into compliance with the Clean Air Act of 1970. Demolition of on-site buildings began shortly thereafter (Wright and Sheets 1990). The Ohio Power Company had a 1972-issued NPDES permit for an on-site synchronous condenser (number B004*AD). As of the date of the SSI, no known remedial or enforcement actions have been taken regarding the Philo Plant site.

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the Philo Plant site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific FIT activities are also provided. The SSI was conducted in accordance with the U.S. EPA-approved work plan.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the Philo Plant site is provided in Appendix B.

3.2 SITE REPRESENTATIVE INTERVIEW

Tracy Gray, FIT team leader, conducted an interview with site representatives Ray E. Wright, Environmental Director, AEP, and Danal Sheets, AEP. David Bily of FIT was also present. The interview was conducted on February 20, 1990, at 10:00 a.m. at AEP's office in Zanesville, Ohio. The site representative interview was conducted to gather information that would aid FIT in conducting SSI activities.

3.3 RECONNAISSANCE INSPECTION

Following the site representative interview, FIT conducted a reconnaissance inspection of the Philo Plant site and surrounding area in accordance with Ecology and Environment, Inc. (E & E), health and safety guidelines. The reconnaissance inspection began at approximately 1:00 p.m. on February 20, 1990, and included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the

site. FIT also determined sampling locations during the reconnaissance inspection. FIT was accompanied by the site representatives during the reconnaissance inspection.

Reconnaissance Inspection Observations. The Philo Plant site is an irregularly shaped parcel of land located in the floodplain of the Muskingum River. The site is bordered on the east and north by the Muskingum River, and on the south by a tributary of the Muskingum River. County Road 6 and the town of Philo are situated to the west of the site (see Figure 3-1 for site features).

Except for a fly ash disposal area in the southeast portion of the site, the site is completely fenced. A locked entrance gate is located along the northern site boundary. A paved access road extends south through the site entrance for approximately 800 feet. Access to the fly ash disposal area is limited by the Muskingum River on the east and the Muskingum River tributary on the south.

A lock and dam are located in the Muskingum River at a point approximately 1,300 feet northwest of the site. An underground canal extends south from a point 500 feet north of the dam to approximately midway through the Philo Plant site.

The Ohio Power Company currently maintains a substation on-site for the transformation and distribution of electricity. The substation is located in the northeast portion of the site and is completely surrounded by a fence. There are two former cooling water discharge points located under the substation area.

The entire site is covered with coarse, heavy ash. No buildings or other structures, except for the substation and a brick wall just west of the substation, were present on-site.

Two dry bottom ash pits are situated immediately south of the substation. Some vegetation was present in the northern bottom ash pit. An NPDES outfall is located immediately south of the southern bottom ash pit. A steelings basin is located south of the bottom ash pits and was observed to contain water. The intended use of this basin is unknown. A debris pile exists to the west of the bottom ash disposal pits. The debris included bricks, tires, and rocks. An office building had formerly been located in this area. The fly ash disposal area is situated in the extreme southeastern end of the site. The southern

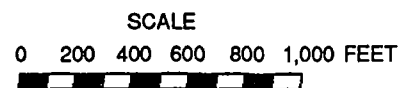
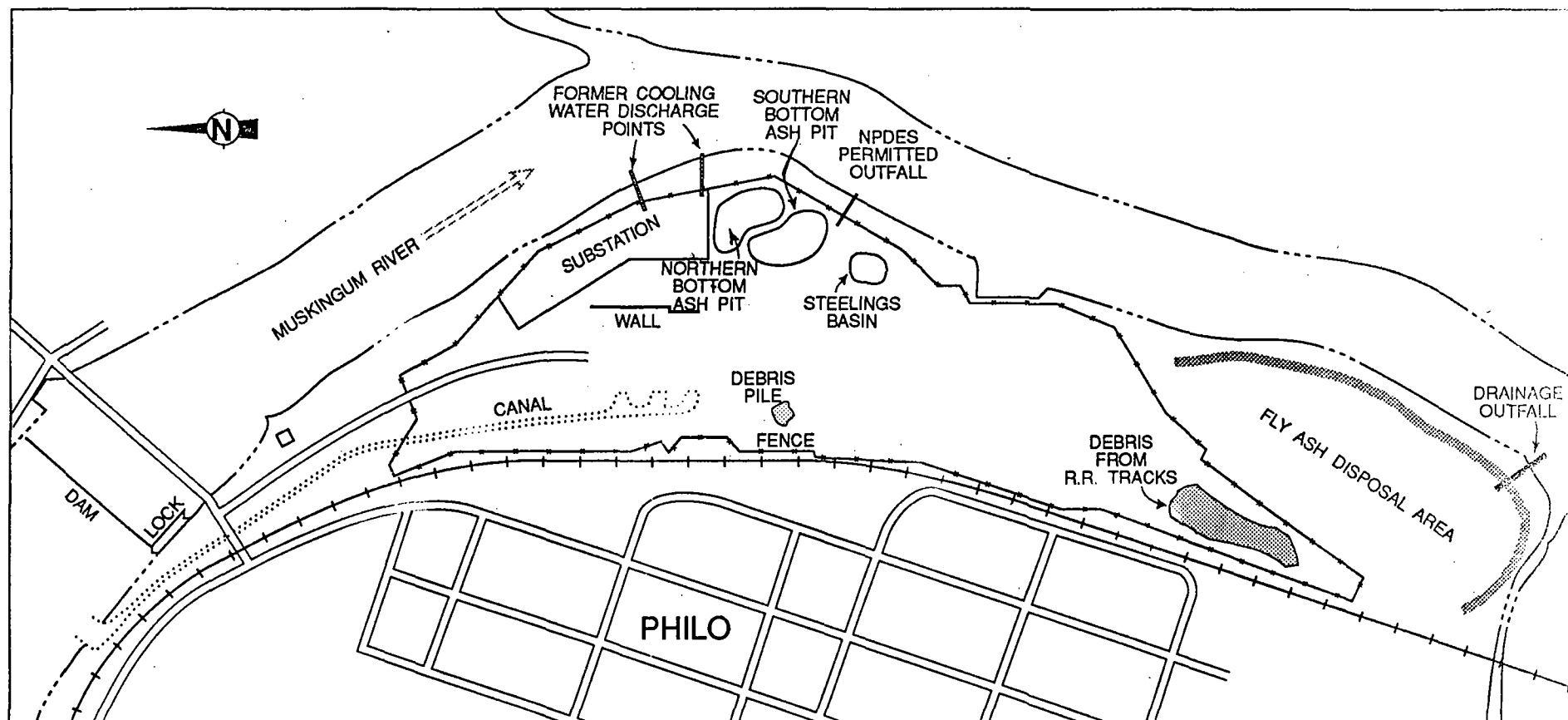


FIGURE 3-1 SITE FEATURES

part of the site also contains debris from demolished railroad tracks.

FIT photographs from the SSI of the Philo Plant site are provided in Appendix C.

3.4 SAMPLING PROCEDURES

Samples were collected by FIT at locations selected during the reconnaissance inspection to determine whether U.S. EPA Target Compound List (TCL) compounds or Target Analytes List (TAL) analytes were present at the site. The TCL and TAL are included with corresponding quantitation/detection limits in Appendix D.

On February 20, 1990, FIT collected five soil samples and three sediment samples. On February 21, 1990, FIT collected a potential background soil sample and a potential background sediment sample. The site representatives accepted offered portions of the February 20, 1990, FIT-collected on-site samples.

Soil/Sediment Sampling Procedures. All soil/sediment samples were surface grab samples collected at depths of 0 to 6 inches. Soil samples S1, S2, S3, and S4 were collected from the area of the bottom ash pits. These samples were collected to determine whether TCL compounds and/or TAL analytes were present in the bottom ash pits, and, if so, whether they were migrating from the pits to the surrounding area.

Soil sample S1 was collected from near the NPDES outfall located just south of the bottom ash pits (see Figure 3-2 for on-site soil/sediment sampling locations). Soil sample S2 was collected from the southwest corner of the northern bottom ash pit. Soil sample S3 was collected from an area of higher ground between the two bottom ash pits. Soil sample S4 was collected from a slope that leads down to the steelings basin, which is lower in elevation than the rest of the site.

Soil sample S5 was collected from the center of the fly ash disposal area. Sample S5 was collected to determine whether TCL compounds and/or TAL analytes were present in this area.

Samples S6, S7, and S8 were sediment samples collected from the west bank of the Muskingum River. These samples were collected to determine whether TCL compounds and/or TAL analytes had migrated from the two bottom ash pits to the river and were transported downstream. Sediment sample S6 was collected downstream of the bottom ash pits, near

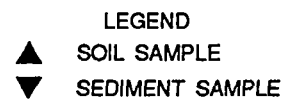
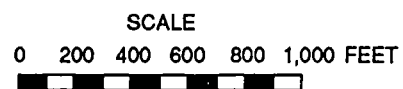
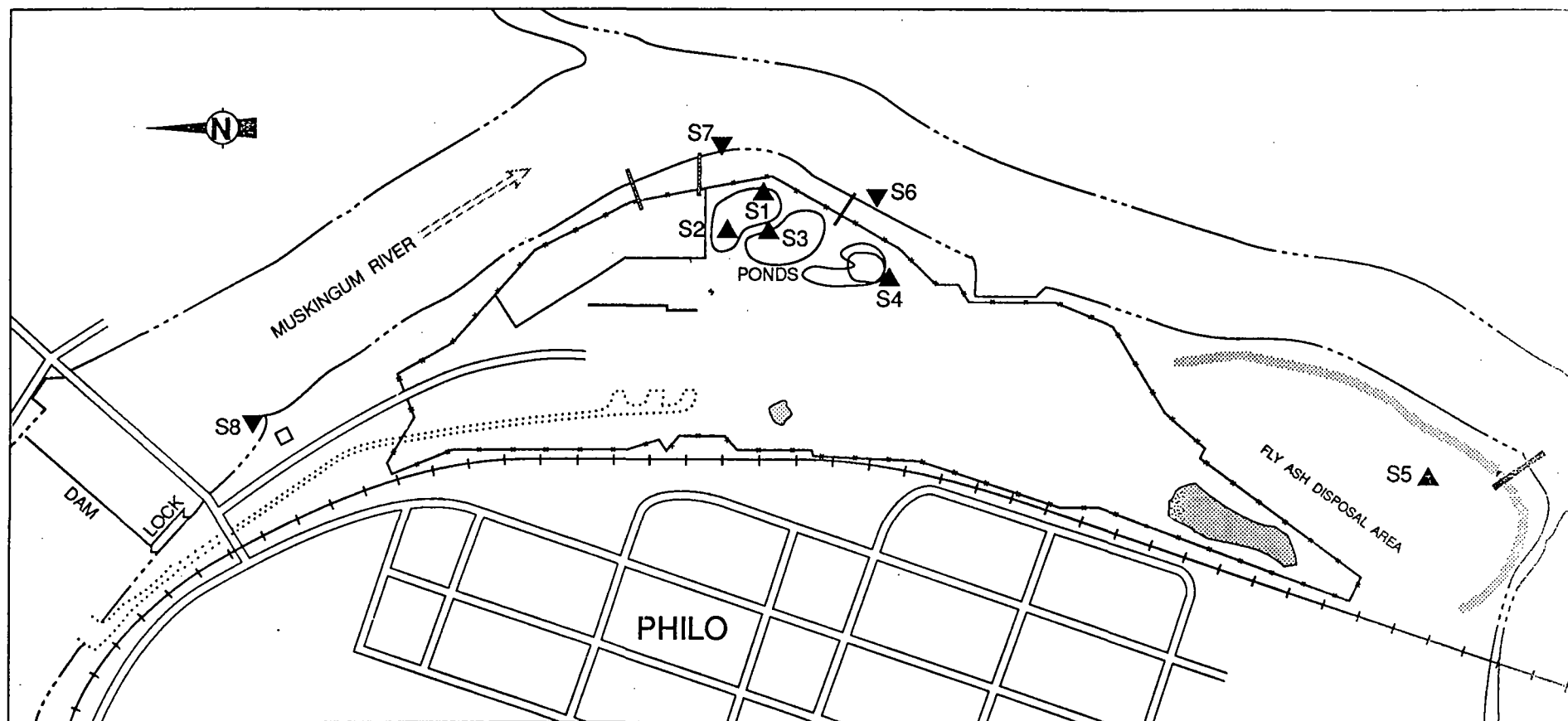


FIGURE 3-2 ON-SITE SOIL/SEDIMENT SAMPLING LOCATIONS

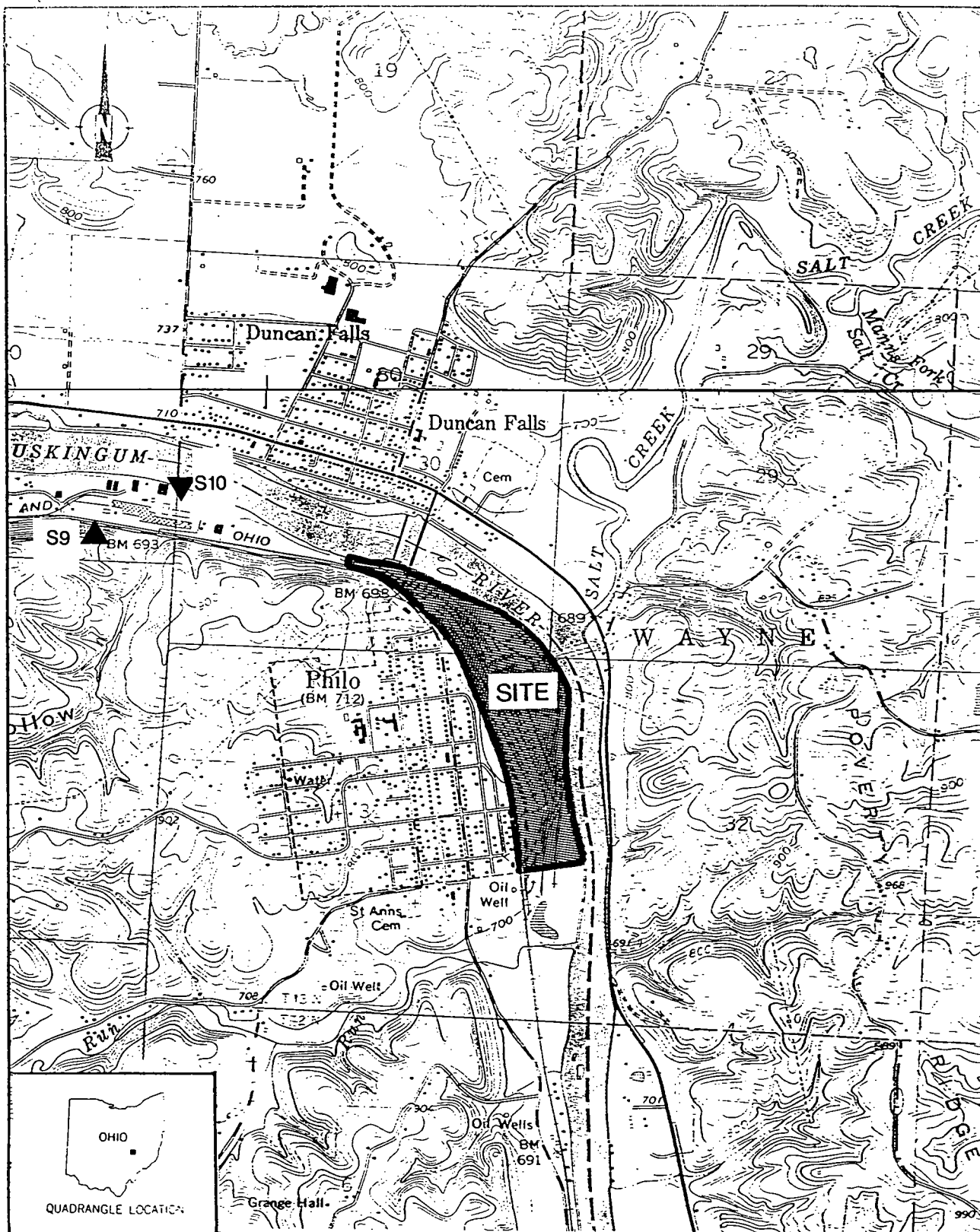
the west bank of the river. Sample S7 was collected near the southern cooling water discharge point. Sediment sample S8 was collected at a location approximately 2,200 feet upstream of the cooling water discharge point.

Samples S9 and S10 were collected off-site at locations approximately 1/2 mile west of the western site boundary (see Figure 3-3 for off-site soil/sediment sampling locations). Soil sample S9 was collected at a location 1,000 feet south of the Muskingum River, just off County Road 6. Sediment sample S10 was collected at a location near the east bank of the Muskingum River. These two samples were collected as potential background samples.

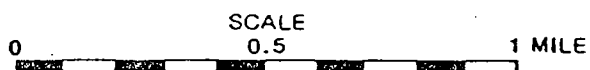
All of the soil/sediment samples were collected using standard E & E operating procedures (E & E 1987). The ground surface was first cleared of vegetation, stones, twigs, and other foreign matter using the appropriate sampling equipment. All samples were collected using a hand trowel. The sample material was then placed into a stainless steel bowl and transferred to samples bottles, using a stainless steel spoon. In all cases, the volatile organic portions of the samples were collected first, with minimal disturbance of the sample material.

Standard E & E decontamination procedures were adhered to during the collection of all soil/sediment samples. The procedures included the scrubbing of all equipment (e.g., hand trowel, bowl, and spoons) with a solution of detergent (Alconox) and distilled water, and triple-rinsing the equipment with distilled water before the collection of each sample (E & E 1987). All soil/sediment samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, all soil/sediment samples were analyzed using the U.S. EPA Contract Laboratory Program (CLP).



SOURCE: USGS, Philo, OH Quadrangle, 7.5 Minute Series, 1961, Photorevised 1975; Zanesville East, OH Quadrangle, 7.5 Minute Series, 1961, Photorevised 1972 and 1975.



LEGEND
SOIL SEDIMENT

FIGURE 3-3 OFF-SITE SOIL/SEDIMENT SAMPLING LOCATIONS

4. ANALYTICAL RESULTS

This section presents results of the chemical analysis of FIT-collected soil/sediment samples for TCL compounds and TAL analytes. All samples were analyzed for volatile organics, semivolatile organics, pesticides/polychlorinated biphenyls (PCBs), metals, and cyanides. Complete chemical analysis results of FIT-collected soil/sediment samples are provided in Table 4-1. In addition, significant tentatively identified compounds (TICs) detected in the analysis of FIT-collected soil/sediment samples are also provided in Table 4-1.

Quantitation/detection limits used in the analysis of soil/sediment samples are provided in Appendix D.

The analytical data for the chemical analysis of soil/sediment samples collected for this SSI have been reviewed by U.S. EPA for compliance with terms of CLP, and the review has been approved by U.S. EPA. The analytical data have also been reviewed by FIT for validity and usability. Any additions, deletions, or changes to the data have been incorporated in the chemical analysis results tables presented in this section.

Table 4-1
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED SOIL/SEDIMENT SAMPLES

Sample Collection Information and Parameters	S1	S2	S3	S4	Sample Number S5	S6	S7	S8	S9	S10
Date	2/20/90	2/20/90	2/20/90	2/20/90	2/20/90	2/20/90	2/20/90	2/20/90	2/21/90	2/21/90
Time	1415	1430	1430	1500	1550	1600	1615	1630	1620	1550
CLP Organic Traffic Report Number	EJJ62	EJJ63	EJJ64	EJJ65	EJJ66	EJJ67	EJJ68	EJJ69	EJJ42	EJJ51
CLP Inorganic Traffic Report Number	MEHT20	MEHT21	MEHT22	MEHT23	MEHT24	MEHT25	MEHT26	MEHT27	MEHT99	MEHT09
<u>Compound Detected</u> (values in µg/kg)										
<u>Volatile Organics</u>										
methylene chloride	30	240J	110J	41	170J	19	23	22	--	--
carbon disulfide	2J	5J	2J	3J	3J	3J	--	--	--	--
trichloroethene	--	--	--	--	4J	--	--	--	--	--
tetrachloroethene	--	--	--	--	14J	--	--	--	--	--
toluene	26J	150J	79J	23J	140J	--	5J	2J	--	--
<u>Semivolatile Organics</u>										
naphthalene	130J	1,300	130J	--	--	--	--	--	--	--
2-methylnaphthalene	220J	1,900	150J	--	--	--	--	--	--	--
dibenzofuran	--	410J	--	--	--	--	--	--	--	--
diethylphthalate	--	--	--	--	--	230J	--	--	--	--
phenanthrene	130J	980	110J	--	--	--	100J	--	--	--
anthracene	--	130J	--	--	--	--	--	--	--	--
di-n-butylphthalate	97J	170J	--	100J	--	150J	130J	130J	--	--
fluoranthene	--	610J	--	--	--	--	--	--	--	--
pyrene	--	650J	--	--	--	--	120J	--	--	--
benzo[a]anthracene	--	460J	--	--	--	--	--	--	--	--
chrysene	--	530J	--	--	--	--	--	--	--	--
bis(2-ethylhexyl)phthalate	120J	270J	95J	--	--	290J	150J	--	--	--
benzo[b]fluoranthene	--	400J	--	--	--	--	--	--	--	--
benzo[k]fluoranthene	--	280J	--	--	--	--	--	--	--	--
<u>TICs†</u>										
dichlordifluoromethane (75-71-8)	100J	--	--	--	--	--	--	--	--	--
<u>Analyte Detected</u> (values in mg/kg)										
aluminum	6,260	17,100	6,950	9,110	27,000	9,540	11,300	4,990	1,550	26,600
antimony	--	--	--	--	--	--	--	6.8JNB	--	--
arsenic	12.4JN	46.3JN	7.4JN	23.6JN	81.2JN	10.8JN	14.3JN	11.7JN	8.4	29.6
barium	46.8	238	41.3B	97.8	143	120	128	61.8	142	4,160
beryllium	2.5J	5.0	2.6J	2.9J	8.6	4.2	4.2	3.1J	1.6	5.8
cadmium	1.7	3.7	1.6	1.1B	2.3	2.2	--	--	5.2JN	7.5JN
calcium	1,160	1,340B	596B	196JB	4,170	15,100	13,600	2,280	17,900	65,300
chromium	20	50.8	16.3	20	44	23.8	25.4	13.3	32.2JE	49.9JE

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
cobalt	6.0JB	23.1	5.3JB	8.2JB	16.2	22.3	21.3	12.4B	19.1	13.5B
copper	26.2JE	297JE	13.8JE	35.2JE	39.4JE	27.8JE	26.7JE	15.5JE	45.8JA	52.2JA
iron	20,000	74,800	19,700	45,300	46,800	29,100	30,500	20,600	40,300	22,300
lead	10.4	99.7	5.3	15.9	19.7	22.3	22.6	13.1	41.5JA	46.3JA
magnesium	539B	1,810	404B	1,840	1,460	3,280	3,360	1,180B	3,810	7,450
manganese	75.7	1,540	26.9	178	359	1,660	1,590	954	955JE	24,500JE
mercury	0.11	0.59	0.64	0.13	0.13	0.16	0.15	0.13	--	--
nickel	5.4B	50.9	5.6B	17.4	37	42.2	41.1	22.7	39.4	30.8
potassium	1,110	2,630	1,080	1,770	3,390	1,240B	1,610	680B	2,960	4,190
selenium	--	2.1	--	0.60B	--	--	--	--	0.56JNWB	0.33JNWB
silver	2.1B	2.4B	2.1B	2.2B	1.9B	2.4B	1.9B	1.6B	--	--
sodium	238B	342B	159B	145B	399B	138B	150B	108B	176B	677B
thallium	1.8B	6.0	1.3B	2.0B	6.4	1.6B	1.9B	1.4B	--	1.6JNAB
vanadium	13.8	53.8	15.4	35.6	72.4	25.1	27.1	15	38.1JEA	16.6JEA
zinc	26.6	285	20	82.7	107	174	171	89.9	115	185

-- Not detected.

† IIC Chemical Abstracts Service (CAS) numbers, if available, are provided in parentheses.

Table 4-1 (Cont.)

COMPOUND QUALIFIER	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
A	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.
W	Post-digestion spike for furnace AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semiquantitative.

5. DISCUSSION OF MIGRATION PATHWAYS

5.1 INTRODUCTION

This section presents discussions of data and information pertaining to potential migration pathways and targets of TCL compounds and TAL analytes that are possibly attributable to the Philo Plant site.

The five migration pathways of concern discussed are groundwater, surface water, air, fire and explosion, and direct contact.

5.2 GROUNDWATER

Although the groundwater in the area of the Philo Plant site was not sampled, there appears to be a potential for TCL compounds and TAL analytes to migrate from the site to groundwater in the vicinity of the site, based on the following information.

- Methylene chloride was detected at levels greater than five times the detection limit in on-site soil samples S1, S2, S3, S4, and S5 (see Appendix D). Background soil sample S9 contained no detectable level of methylene chloride (see Table 4-1 for results of chemical analysis of FIT-collected soil/sediment samples).
- Toluene was detected at levels greater than five times the detection limit (5 µg/kg) in on-site soil samples S1, S2, S3, and S5. Background soil sample S9 contained no detectable level of toluene.

- 2-methylnaphthalene was detected at a level greater than five times the detection limit (330 µg/kg) in on-site soil sample S2. Background soil sample S9 contained no detectable level of 2-methylnaphthalene.
- Mercury was detected at levels greater than five times the detection limit (0.008 mg/kg) in on-site soil samples S1, S2, S3, S4, and S5, and in on-site sediment samples S6, S7, and S8. Background soil sample S9 and sediment sample S10 contained no detectable levels of mercury.
- The major constituent in samples S1, S2, S3, and S5 was ash; therefore, contaminants detected in these four samples can be attributed to the site.
- Fly ash and bottom ash were deposited on-site (Wright and Sheets 1990).
- TAL analytes, including all heavy metals, and TCL compounds, including polycyclic aromatic hydrocarbons, may be present in fly ash (E & E 1989).
- The fly ash disposal area is unlined and uncapped (Wright and Sheets 1990).
- A TIC was detected in sample S1.

The presence, distribution, and movement of groundwater below the Philo Plant site is primarily controlled by the Muskingum River. Because the site is located in the floodplain of the Muskingum River, the surface layer consists of soil, clay, silt, sand, and gravel deposits (United States Geological Survey [USGS] 1961). The depth to bedrock varies in the area of the site from 5 to 30 feet, although in some areas the bedrock may be as deep as 100 feet (see Appendix E for well logs of the area of the site). The bedrock consists of Pennsylvanian-age sandstone and shale layers, with some limestone and coal beds (Walker

1962). Most local wells, as well as municipal wells for the city of Duncan Falls and the town of Philo, draw water from a sand and gravel aquifer that lies above the bedrock (Peyton 1989; Pletcher 1989; Walker 1962). This highly permeable sand and gravel aquifer is located directly under the site with the depth to water as shallow as 20 feet (see Appendix E). This aquifer constitutes the aquifer of concern (AOC). Based on the geologic origin and geographic location of the AOC, which is the same as the Muskingum River, it is assumed that the groundwater flow direction is to the south-southeast.

The city of Duncan Falls is served by the East Muskingum Water Authority System. These municipal wells are located approximately 1 1/2 miles northwest of the site (see Appendix A) and are approximately 70 feet deep (Peyton 1989). The municipal water for the town of Philo is supplied by the Philo Water Department. Philo municipal wells are located approximately 1/4 mile south of the site (Pletcher 1989) and are approximately 60 feet deep (Walker 1962). Some private wells in the area of the site are located more than 1 mile away from the Muskingum River. These wells are drilled into the bedrock; however, they typically yield less than 2 gallons of water per minute (Walker 1962).

The potential target population of groundwater contamination is therefore approximately 8,300 persons. This population includes the approximately 6,200 persons who obtain drinking water from the East Muskingum Water Authority System (Peyton 1989), the approximately 1,000 persons who obtain water from the Philo Water Department (Pletcher 1989), and the approximately 1,100 persons in Duncan Falls who obtain water from private wells (Peyton 1989). The total of 1,100 persons using private wells was calculated by counting houses on a United States Geological Survey (USGS) topographic map (USGS 1961) and multiplying this number (177) by a persons-per-household value of 2.77 for Muskingum County (U.S. Bureau of the Census 1982).

5.3 SURFACE WATER

The Philo Plant site is adjacent to the Muskingum River. No surface water samples were collected from the river; however, four sediment samples were collected. A potential exists for TCL compounds

and TAL analytes detected on-site to migrate to surface water based on the following information.

- Mercury was detected at levels greater than five times the detection limit (0.008 mg/kg) in sediment samples S6, S7, and S8. The background sediment sample did not contain mercury above the detection limit.
- Waste disposed of on-site is alleged to have been fly ash and bottom ash (Wright and Sheets 1990).
- TAL analytes, including all heavy metals, may be present in fly ash (E & E 1989).
- Although the site representatives claimed that no flooding occurs on-site (Wright and Sheets 1990), the site is located on the floodplain of the Muskingum River.
- A canal that is no longer used could potentially flood and transport waste to the river.
- The fly ash disposal area and the bottom ash pits are unlined and uncapped (Wright and Sheets 1990).

Because there are no surface water intakes from the Muskingum River within 3 miles downstream of the site, no surface water target populations were calculated; however, people that use the river for recreational purposes may be exposed to on-site contaminants that migrate off-site via the Muskingum River (Dewey 1989).

5.4 AIR

A release of TCL compounds or TAL analytes to the air was not documented during the SSI of the Philo Plant site. During the reconnaissance inspection, FIT site-entry instruments (HNu, oxygen meter, explosimeter, radiation monitor, and hydrogen cyanide monitor) did not

detect levels above background concentrations at the site. In accordance with the U.S. EPA-approved work plan, further air monitoring was not conducted by FIT.

A potential does not exist for TCL compounds and TAL analytes to migrate from the site via windblown particulates based on the nature of the ash itself, which is coarse and heavy.

5.5 FIRE AND EXPLOSION

According to federal, state, and local file information reviewed by FIT, and an interview with Troy Hertman, fireman for the Philo Fire Department, no documentation exists of an incident of fire or explosion at the site (Hertman 1990). According to FIT observations and site-entry equipment readings, no potential for fire or explosion existed at the site at the time of the SSI.

5.6 DIRECT CONTACT

According to federal, state, and local file information reviewed by FIT, observations made during the SSI, and the interview with the site representatives, no incidents of direct contact with TCL compounds or TAL analytes at the Philo Plant site have been documented.

There is a potential for direct contact based on the following information.

- TCL compounds and TAL analytes were detected in samples collected from the on-site disposal areas at above background concentrations.
- The fly ash disposal area and the bottom ash pits are uncapped and unlined.
- The residential area nearest to the site is the town of Philo, which is approximately 500 feet west of the site (USGS 1961).

The population within a 1-mile radius of the site potentially affected through direct contact with TAL analytes at the site is approximately 2,000 persons. This population was calculated by counting houses within a 1-mile radius of the site on a USGS topographic map (USGS 1961) and multiplying this number by a persons-per-household value of 2.77 (U.S. Bureau of the Census 1982).

6. REFERENCES

Dewey, Ken, October 2, 1989, Industrial Wastewater Group Member, OEPA, telephone conversation, contacted by Henry Adamiak of E & E.

E & E, 1987, Quality Assurance Project Plan Region V FIT Conducted Site Inspections, Chicago, Illinois.

_____, January 20, 1989, office memorandum, from E & E Analytical Services Department, Re: Waste fly ash at the Philo Plant site.

Hertman, Troy, July 3, 1990, fireman, Philo Fire Department, telephone conversation, contacted by Rod Hackler of E & E.

OEPA, October 12, 1976, Director's Journal.

Peyton, Roger, October 5, 1989, Superintendent, East Muskingum Water Authority, telephone conversation, contacted by Henry Adamiak of E & E.

Pletcher, Robert, October 3, 1989, Superintendent, Philo Water Department, telephone conversation, contacted by Henry Adamiak of E & E.

U.S. Bureau of the Census, 1982, 1980 Census of Population, Characteristics of the Population, General Population Characteristics, Ohio, Washington, D.C.

U.S. EPA, February 12, 1988, Office of Solid Waste and Emergency Response, Pre-Remedial Strategy for Implementing SARA, Directive number 9345.2-01, Washington, D.C.

_____, January 10, 1990, Screening Site Inspection Work Plan, for the Philo Plant site, U.S. EPA ID: OHD980423347, prepared by Henry Adamiak of E & E.

USGS, 1961, photorevised 1975, Philo, Ohio Quadrangle, 7.5 Minute Series: 1:24,000.

Walker, A. C., 1962, Underground Water Resources, Muskingum River Basin, Ohio Department of Natural Resources, Division of Water.

Wright, Ray E., and Danal Sheets, February 20, 1990, site representative interview, conducted by Tracy Gray of E & E.

5680:3

APPENDIX A

SITE 4-MILE RADIUS MAP

SDMS US EPA Region V

Imagery Insert Form

Some images in this document may be illegible or unavailable in SDMS.

Please see reason(s) indicated below:

☐

Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comment

☐

Confidential Business Information (CBI).

This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. For questions regarding viewing this document, you may contact the EPA Superfund Records Manager.

Specify Type of Document(s) / Comment

☒

Unscannable Material: Oversized X or Format.

Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. The original document is available for viewing at the Superfund Records center.

Specify Type of Document(s) / Comment

☐

Other:

APPENDIX B

U.S. EPA FORM 2070-13



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE OH 02 SITE NUMBER OH0980423347

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common or descriptive name of site) Ohio Power Co., Philo Plant		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER Philo Generating Station, Philo, Ohio			
03 CITY Philo	04 STATE OH	05 ZIP CODE 43771	06 COUNTY Muskingum	07 COUNTY CODE 119	08 CONG DIST 10
09 COORDINATES LATITUDE 39° 51' 20" LONGITUDE 81° 54' 12"		10 TYPE OF OWNERSHIP (Check one) <input type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input checked="" type="checkbox"/> F. OTHER Public Utility <input type="checkbox"/> G. UNKNOWN			

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 2, 20, 90 MONTH DAY YEAR	02 SITE STATUS <input type="checkbox"/> ACTIVE <input checked="" type="checkbox"/> INACTIVE	03 YEARS OF OPERATION 1974, 1975 BEGINNING YEAR ENDING YEAR		UNKNOWN	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR Ecology & Environment (Name of firm) <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR (Name of firm) <input type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR <input type="checkbox"/> G. OTHER (Specify)					

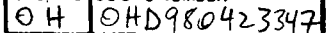
05 CHIEF INSPECTOR Tracy Gray	06 TITLE Chemical Engineer	07 ORGANIZATION E & E	08 TELEPHONE NO. (312) 663-9415
09 OTHER INSPECTORS David Bily	10 TITLE Geologist	11 ORGANIZATION E & E	12 TELEPHONE NO. (312) 663-9415
Nazeer Uddin	Marine Geologist	E & E	(312) 663-9415
Henry Adamiak	Civil Engineer	E & E	(312) 663-9415
Jeff Swano	Environmental Economist	E & E	(312) 663-9415
			()

13 SITE REPRESENTATIVES INTERVIEWED Ray E. Wright	14 TITLE Environmental Director	15 ADDRESS 113 N. 5 St. Zanesville, OH	16 TELEPHONE NO. (614) 452-5461
Dana Sheets	Unknown	113 N. 5 St. Zanesville, OH	(614) 452-5461
			()
			()
			()
			()

17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT	18 TIME OF INSPECTION 1:00 p.m.	19 WEATHER CONDITIONS high 40's °F; Sunny
---	------------------------------------	--

IV. INFORMATION AVAILABLE FROM

01 CONTACT Brian Blair	02 OF (Agency/Organization) SEDO of OEPA		03 TELEPHONE NO. (614) 385-8501	
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM Rod Hackler	05 AGENCY US EPA	06 ORGANIZATION E & E	07 TELEPHONE NO. (312) 663-9415	08 DATE 7, 23, 90 MONTH DAY YEAR





POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE: OH 02 SITE NUMBER: 040980423347

H. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 6000 04 NARRATIVE DESCRIPTION

see subsection 5.2

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

see section 5.3

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

see subsection 5.4

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

see subsection 5.5

01 ☒ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2000 04 NARRATIVE DESCRIPTION

see subsection 5.6

01 ☒ F. CONTAMINATION OF SOIL 02 ☒ OBSERVED (DATE: 2/20/90) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 114.7 (Acres) 04 NARRATIVE DESCRIPTION

see table 4-1

01 ☒ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 8000 04 NARRATIVE DESCRIPTION

see subsection 5.2

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

the plant is not Active

01 ☒ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

see subsection 5.4



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE OH 02 SITE NUMBER 04D980423347

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☒ J DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

Various grasses and small trees may incorporate TAL
Analytes that were detected in soils on site.

01 ☒ K DAMAGE TO FAUNA

04 NARRATIVE DESCRIPTION (include names of species)

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

Potential exists by consumption of contaminated flora

01 ☒ L CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

The potential exists if contaminated flora and
fauna become part of the food chain.

01 ☒ M UNSTABLE CONTAINMENT OF WASTES

(Spills, Runoff, Standing liquids, Leaking drums)

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☒ OBSERVED (DATE: 2/20/90)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

The ash was left uncovered.

01 ☐ N DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None reported or observed

01 ☐ O CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None reported or observed

01 ☐ P ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

site is fenced

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: ~ 8000

IV. COMMENTS

Migration Routes of concern are groundwater and surface water.

V. SOURCES OF INFORMATION (See specific references e.g. state lab sample analysis reports)

FIT site inspection of 2/20/90
FIT files: Region IV



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
04 040980423347

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input checked="" type="checkbox"/> A NPDES	B 004 *AD	OCT 12, 1976	July 20, 1981	Synchronous Condenser Operation
<input type="checkbox"/> B UIC				
<input type="checkbox"/> C AIR				
<input type="checkbox"/> D RCRA				
<input type="checkbox"/> E RCRA INTERIM STATUS				
<input type="checkbox"/> F SPCC PLAN				
<input type="checkbox"/> G STATE (Specify)				
<input type="checkbox"/> H LOCAL (Specify)				
<input type="checkbox"/> I OTHER (Specify)				
<input type="checkbox"/> J NONE				

III. SITE DESCRIPTION

01 STORAGE/ DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input checked="" type="checkbox"/> A SURFACE IMPOUNDMENT	Unknown		<input type="checkbox"/> A INCINERATION	<input type="checkbox"/> A BUILDINGS ON SITE
<input checked="" type="checkbox"/> B PILES	Unknown		<input type="checkbox"/> B UNDERGROUND INJECTION	None
<input type="checkbox"/> C DRUMS, ABOVE GROUND			<input type="checkbox"/> C CHEMICAL PHYSICAL	DE AREA OF SITE
<input type="checkbox"/> D TANK, ABOVE GROUND			<input type="checkbox"/> D BIOLOGICAL	114.7 Acres
<input type="checkbox"/> E TANK, BELOW GROUND			<input type="checkbox"/> E WASTE OIL PROCESSING	
<input type="checkbox"/> F LANDFILL			<input type="checkbox"/> F SOLVENT RECOVERY	
<input type="checkbox"/> G LANDFARM			<input type="checkbox"/> G OTHER RECYCLING RECOVERY	
<input type="checkbox"/> H OPEN DUMP			<input checked="" type="checkbox"/> H OTHER UNKNOWN (Specify)	
<input type="checkbox"/> I OTHER (Specify)				

07 COMMENTS

None

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A ADEQUATE, SECURE ☐ B MODERATE ☒ C INADEQUATE, POOR ☐ D INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Disposal Areas are unlined and uncapped

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS The site is fenced and the entrance is locked.
See Subsection 3.3 in narrative

VI. SOURCES OF INFORMATION (Check specific references or to state laws, some or all apply)

FIT site inspection on 2/20/90

FIT files: Region V



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

D1 STATE OH D2 SITE NUMBER OH D9 804233 47

II. DRINKING WATER SUPPLY

D1 TYPE OF DRINKING SUPPLY
(Check all that apply)

SURFACE WELL
COMMUNITY A ☐ B ☒
NON-COMMUNITY C ☐ D ☒

D2 STATUS

ENDANGERED A ☐ AFFECTED B ☐ MONITORED C ☒
D ☐ E ☐ F ☐ Unknown

D3 DISTANCE TO SITE

A. $\frac{1}{4}$ (mi)
B. $\frac{1}{19}$ (mi)

III. GROUNDWATER

D1 GROUNDWATER USE IN VICINITY (Check one)

☒ A ONLY SOURCE FOR DRINKING ☐ B DRINKING (Other sources available)
COMMERCIAL, INDUSTRIAL IRRIGATION (No other water sources available)
☐ C COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available) ☐ D NOT USED, UNUSABLE

D2 POPULATION SERVED BY GROUND WATER 8000

D3 DISTANCE TO NEAREST DRINKING WATER WELL $\frac{1}{10}$ (mi)

D4 DEPTH TO GROUNDWATER

20 (ft)

D5 DIRECTION OF GROUNDWATER FLOW

South

D6 DEPTH TO AQUIFER OF CONCERN

15 (ft)

D7 POTENTIAL YIELD OF AQUIFER

500+ (gpd)

D8 SOLE SOURCE AQUIFER

☐ YES ☒ NO

D9 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

See well logs (Appendix E)

10 RECHARGE AREA

☒ YES ☐ NO

COMMENTS

Maskingum River

11 DISCHARGE AREA

☒ YES ☐ NO

COMMENTS

Maskingum River

IV. SURFACE WATER

D1 SURFACE WATER USE (Check one)

☒ A RESERVOIR, RECREATION, DRINKING WATER SOURCE ☐ B IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C COMMERCIAL, INDUSTRIAL ☐ D NOT CURRENTLY USED

D2 AFFECTED (POTENTIALLY AFFECTED) BODIES OF WATER

NAME:

Maskingum River

AFFECTED

DISTANCE TO SITE

☐

border of site (mi)
(mi)
(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

D1 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE

A. 2000
NO OF PERSONS

TWO (2) MILES OF SITE

B. 2400
NO OF PERSONS

THREE (3) MILES OF SITE

C. 2800
NO OF PERSONS

D2 DISTANCE TO NEAREST POPULATION

$\frac{1}{10}$ (mi)

D3 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

900

D4 DISTANCE TO NEAREST OFF-SITE BUILDING

150 ft. (mi)

D5 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, wage, density, scattered urban area)

See subsection 2.2



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
04 04D980423347

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A $10^{-8} - 10^{-6}$ cm/sec ☐ B $10^{-6} - 10^{-4}$ cm/sec ☐ C $10^{-4} - 10^{-2}$ cm/sec ☒ D GREATER THAN 10^{-2} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A IMPERMEABLE (Less than 10^{-8} cm/sec) ☐ B RELATIVELY IMPERMEABLE ($10^{-8} - 10^{-6}$ cm/sec) ☒ C RELATIVELY PERMEABLE ($10^{-6} - 10^{-4}$ cm/sec) ☐ D VERY PERMEABLE (Greater than 10^{-4} cm/sec)

03 DEPTH TO BEDROCK

75 (m)

04 DEPTH OF CONTAMINATED SOIL ZONE

Unknown (m)

05 SOIL pH

Unknown

06 NET PRECIPITATION

6.3 (m)

07 ONE YEAR 24 HOUR RAINFALL

2.4 (m)

08 SLOPE

SITE SLOPE 4.0 %

DIRECTION OF SITE SLOPE

East

TERRAIN AVERAGE SLOPE

4.0 %

09 FLOOD POTENTIAL

SITE IS IN N/A YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, FLOODWAY

11 DISTANCE TO WETLANDS (500 ft minimum)

ESTUARINE
A > 1 (mi)

OTHER
B > 1 (mi)

12 DISTANCE TO CRITICAL HABITAT (100 ft minimum for species)

> 1 (mi)

ENDANGERED SPECIES

N/A

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

A 1/10 (mi)

RESIDENTIAL AREAS, NATIONAL STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

B 1/10 (mi)

AGRICULTURAL LANDS
FARME AG LAND AG LAND

C Unknown (mi) D Unknown (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See 4-mile radius map (Appendix A)

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

FIT site inspection of 2/20/90
FIT files: Region V



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
OH 04D960423347

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	8	See Subsection 3.4	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU	No readings above background; 0 ppm
O ₂ meter	No readings above or below background; 21%
Explosimeter	No readings above background; 0% LEL
Radiation meter	No Alarm sounded; < 0.1 milliREM/hr
Monitox CN detector	No readings above background; 0 ppm

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF <u>Ecology & Environment</u> <small>(Name of organization or individual)</small>
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS <u>FIT: Region V Chicago</u>

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Photos taken on-site during inspection

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

FIT site inspection of 2/20/90

Fit files: Region V



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

D1 STATE OH D2 SITE NUMBER 04D980423347

II. CURRENT OWNER(S)

PARENT COMPANY (IF APPLICABLE)

01 NAME Ohio Power Co.			02 D+B NUMBER Unknown			08 NAME American Electric Power			09 D+B NUMBER Unknown								
03 STREET ADDRESS (P.O. Box, RFD, etc.) 113 N. 5th St.			04 SIC CODE Unknown			10 STREET ADDRESS (P.O. Box, RFD, etc.) Unknown			11 SIC CODE Unknown								
05 CITY Zanesville			06 STATE OH			07 ZIP CODE Unknown			12 CITY Zanesville			13 STATE OH			14 ZIP CODE Unknown		
01 NAME N/A			02 D+B NUMBER			08 NAME N/A			09 D+B NUMBER								
03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD, etc.)			11 SIC CODE								
05 CITY			06 STATE			07 ZIP CODE			12 CITY			13 STATE			14 ZIP CODE		
01 NAME N/A			02 D+B NUMBER			08 NAME N/A			09 D+B NUMBER								
03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD, etc.)			11 SIC CODE								
05 CITY			06 STATE			07 ZIP CODE			12 CITY			13 STATE			14 ZIP CODE		
01 NAME N/A			02 D+B NUMBER			08 NAME N/A			09 D+B NUMBER								
03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD, etc.)			11 SIC CODE								
05 CITY			06 STATE			07 ZIP CODE			12 CITY			13 STATE			14 ZIP CODE		
01 NAME N/A			02 D+B NUMBER			08 NAME N/A			09 D+B NUMBER								
03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD, etc.)			11 SIC CODE								
05 CITY			06 STATE			07 ZIP CODE			12 CITY			13 STATE			14 ZIP CODE		

III. PREVIOUS OWNER(S) (List most recent first)

IV. REALTY OWNER(S) (If applicable, list most recent first)

01 NAME Unknown			02 D+B NUMBER			01 NAME N/A			02 D+B NUMBER					
03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE			03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE					
05 CITY			06 STATE			05 CITY			06 STATE			07 ZIP CODE		
01 NAME N/A			02 D+B NUMBER			01 NAME N/A			02 D+B NUMBER					
03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE			03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE					
05 CITY			06 STATE			05 CITY			06 STATE			07 ZIP CODE		
01 NAME N/A			02 D+B NUMBER			01 NAME N/A			02 D+B NUMBER					
03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE			03 STREET ADDRESS (P.O. Box, RFD, etc.)			04 SIC CODE					
05 CITY			06 STATE			05 CITY			06 STATE			07 ZIP CODE		

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT Site inspection on 2/20/90
FIT files: Region V



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE OH 02 SITE NUMBER OH D980423347

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME Ohio Power Co.	02 D+B NUMBER Unknown	10 NAME American Electric Power	11 D+B NUMBER Unknown		
03 STREET ADDRESS (P.O. Box, RFD, etc.) 113 N. 5th St	04 SIC CODE Unknown	12 STREET ADDRESS (P.O. Box, RFD, etc.) Unknown	13 SIC CODE Unknown		
05 CITY Zanesville	06 STATE OH	07 ZIP CODE Unknown	14 CITY Zanesville	15 STATE OH	16 ZIP CODE Unknown
08 YEARS OF OPERATION 51 years	09 NAME OF OWNER Ohio Power Co.				

III. PREVIOUS OPERATOR(S) (List most recent first, provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME Unknown	02 D+B NUMBER	10 NAME Unknown	11 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD, etc.)	13 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME N/A	02 D+B NUMBER	10 NAME N/A	11 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD, etc.)	13 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME N/A	02 D+B NUMBER	10 NAME N/A	11 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD, etc.)	13 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				

IV. SOURCES OF INFORMATION (Give specific references, e.g., state files, lab test analysis reports)

FIT site inspection of 2/20/90

FIT files: Region V



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
OH 04D980423347

II. ON-SITE GENERATOR

01 NAME Ohio Power Co.	02 D+B NUMBER Unknown
03 STREET ADDRESS (P.O. Box, RFD, etc.) 113 N. 5th St.	04 SIC CODE Unknown
05 CITY Zanesville	06 STATE 07 ZIP CODE OH Unknown

III. OFF-SITE GENERATOR(S)

01 NAME None	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME N/A	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME None	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME N/A	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (Give specific references e.g. State or local agency reports)

FIT site inspection of 2/20/90
FIT files: Region II



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
OH 0HD980423347

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
OH OH D980423347

II PAST RESPONSE ACTIVITIES (continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ S. CAPPING COVERING
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ T. BULK TANKAGE REPAIRED
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ V. BOTTOM SEALED
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ W. GAS CONTROL
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ X. FIRE CONTROL
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ Y. LEACHATE TREATMENT
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ Z. AREA EVACUATED
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ 2. POPULATION RELOCATED
04 DESCRIPTION

N/A

02 DATE _____

03 AGENCY _____

01 ☐ 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

NONE

02 DATE _____

03 AGENCY _____

III. SOURCES OF INFORMATION (List specific references, e.g., state files, sample analysis, reports)

FIT site inspection of 2/20/90
FIT files: Region V



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
OH	OH D 980423347

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL STATE LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

FIT site inspection of 2/20/90
FIT files: Region V

APPENDIX C

FIT SITE PHOTOGRAPHS

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo PlantPAGE 1 OF 12U.S. EPA ID: OHDA80423347 TDD: FO5-8805-020PAN: FOH0828SBDATE: 2/20/90TIME: 1415DIRECTION OF
PHOTOGRAPH:eastWEATHER
CONDITIONS:
high 40'sSunny

PHOTOGRAPHED BY:

Tracy GraySAMPLE ID
(if applicable):S1DESCRIPTION: Soil sample collected at outfall area for northern
bottom ash pond.DATE: 2/20/90TIME: 1415DIRECTION OF
PHOTOGRAPH:eastWEATHER
CONDITIONS:
high 40'sSunny

PHOTOGRAPHED BY:

Tracy GraySAMPLE ID
(if applicable):S1DESCRIPTION: Perspective view of soil sample location S1.

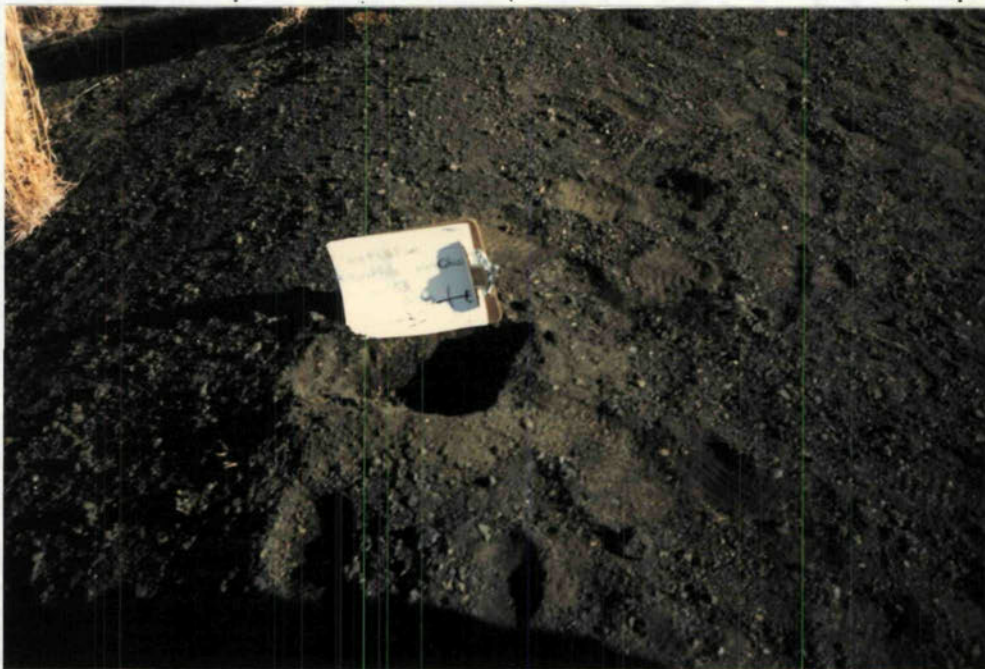
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo PlantPAGE 2 OF 12U.S. EPA ID: OH D980423347 TDD: F05-8805-020PAN: F0408285BDATE: 2/20/90TIME: 1430DIRECTION OF
PHOTOGRAPH:
eastWEATHER
CONDITIONS:
high 40's
SunnyPHOTOGRAPHED BY:
Tracy GraySAMPLE ID
(if applicable):
S2DESCRIPTION: Soil sample collected at center of northern
bottom ash pit.DATE: 2/20/90TIME: 1430DIRECTION OF
PHOTOGRAPH:
eastWEATHER
CONDITIONS:
high 40's
SunnyPHOTOGRAPHED BY:
Tracy GraySAMPLE ID
(if applicable):
S2DESCRIPTION: Perspective view of soil sample location S2

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo PlantPAGE 3 OF 12U.S. EPA ID: OH D9804 23347 TDD: F05-8805-020PAN: F0H08285BDATE: 2/20/90TIME: 1430DIRECTION OF
PHOTOGRAPH:EastWEATHER
CONDITIONS:
high 40'ssunny

PHOTOGRAPHED BY:

Tracy GraySAMPLE ID
(if applicable):S3DESCRIPTION: Soil sample collected at rim between the northern and southern bottom ash ponds.DATE: 2/20/90TIME: 1430DIRECTION OF
PHOTOGRAPH:EastWEATHER
CONDITIONS:
high 40'ssunny

PHOTOGRAPHED BY:

Tracy GraySAMPLE ID
(if applicable):S3DESCRIPTION: Perspective view of soil sample location S3.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo PlantPAGE 4 OF 12U.S. EPA ID: 0110980423347 TDD: F05-8805-020PAN: F011082850DATE: 2/20/90TIME: 1500DIRECTION OF
PHOTOGRAPH:NorthWEATHER
CONDITIONS:
high 40'sSunny

PHOTOGRAPHED BY:

Tracy GraySAMPLE ID
(if applicable):S4DESCRIPTION: Soil sample collected from runoff area leading to
the steelings basin.DATE: 2/20/90TIME: 1500DIRECTION OF
PHOTOGRAPH:NorthWEATHER
CONDITIONS:
high 40'sSunny

PHOTOGRAPHED BY:

Tracy GraySAMPLE ID
(if applicable):S4DESCRIPTION: Perspective view of soil sample location S4.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo Plant

PAGE 5 OF 12

U.S. EPA ID: OH D980423347 TDD: F05-8805-020

PAN: F0408285B

DATE: 2/20/90

TIME: 1550

DIRECTION OF
PHOTOGRAPH:
North

WEATHER
CONDITIONS:
high 40's

Sunny

PHOTOGRAPHED BY:
Dave Bily

SAMPLE ID
(if applicable):
S5



DESCRIPTION: Soil sample collected from fly ash pond.

DATE: 2/20/90

TIME: 1550

DIRECTION OF
PHOTOGRAPH:
North

WEATHER
CONDITIONS:
high 40's

Sunny

PHOTOGRAPHED BY:
Dave Bily

SAMPLE ID
(if applicable):
S5

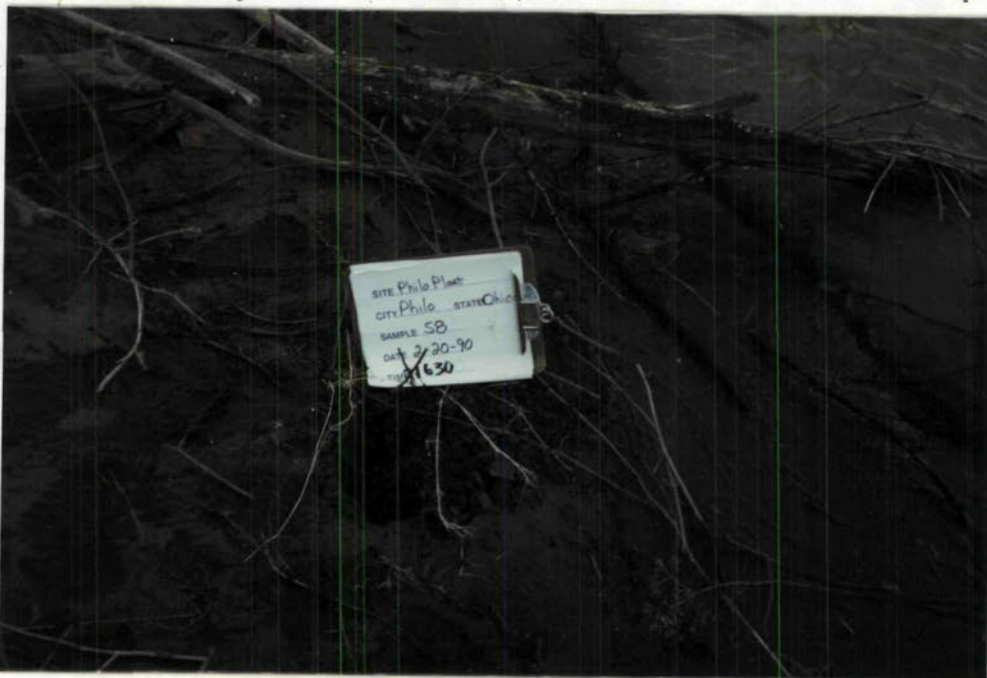
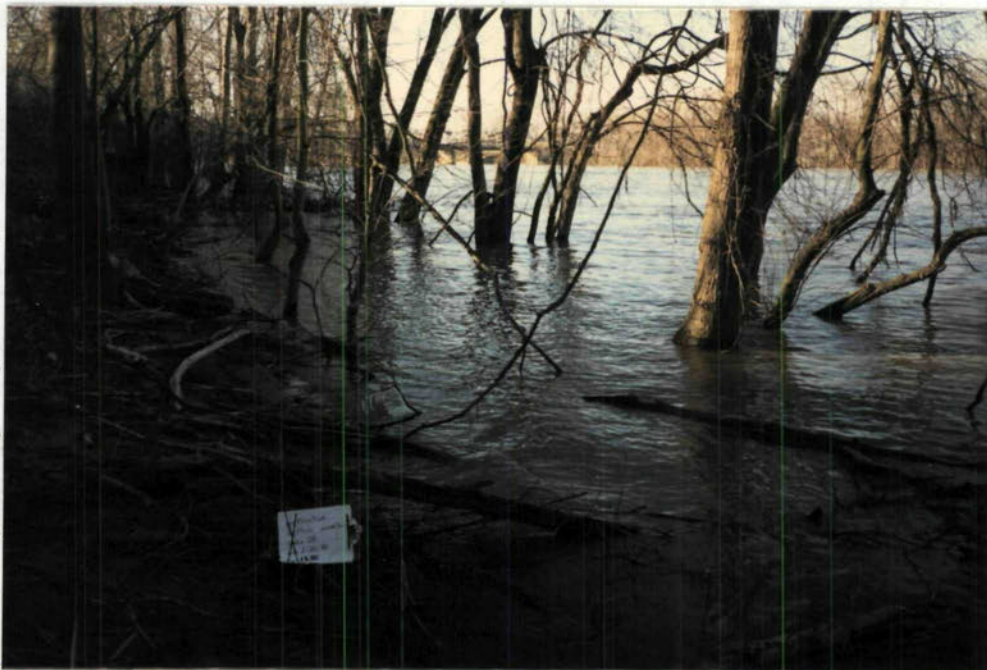


DESCRIPTION: Perspective View of soil sample location S5.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo PlantPAGE 6 OF 12U.S. EPA ID: OH D9804 23347 TDD: F05-8805-020PAN: F0 H0828SBDATE: 2/20/90TIME: 1615DIRECTION OF
PHOTOGRAPH:
NorthWEATHER
CONDITIONS:
high 40'sSunnyPHOTOGRAPHED BY:
Tracy GraySAMPLE ID
(if applicable):
S7DESCRIPTION: Sediment sample collected at point of discharge
at Muskingum River.DATE: 2/20/90TIME: 1615DIRECTION OF
PHOTOGRAPH:
WestWEATHER
CONDITIONS:
high 40'sSunnyPHOTOGRAPHED BY:
Tracy GraySAMPLE ID
(if applicable):
S7DESCRIPTION: Perspective view of sediment sample location S7.
Note tire in background.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo PlantPAGE 7 OF 12U.S. EPA ID: OH0980423347 TDD: F05-8805-020PAN: F0H0828SBDATE: 2/20/90TIME: 1630DIRECTION OF
PHOTOGRAPH:
northeastWEATHER
CONDITIONS: high 40'ssunnyPHOTOGRAPHED BY:
Tracy GraySAMPLE ID
(if applicable):
S8DESCRIPTION: Sediment sample collected upstream at Muskingum River.DATE: 2/20/90TIME: 1630DIRECTION OF
PHOTOGRAPH:
northeastWEATHER
CONDITIONS: high 40'ssunnyPHOTOGRAPHED BY:
Tracy GraySAMPLE ID
(if applicable):
S8DESCRIPTION: Perspective view of sediment sample location S8.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo Plant

PAGE 8 OF 12

U.S. EPA ID: OH D980423347

IDD: F058805020

PAN: F0H08285B

DATE: 2/20/90

TIME: 1330

DIRECTION OF
PHOTOGRAPH:

North

WEATHER
CONDITIONS:

high 40's

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: The substation and a wall of a demolished building.

DATE: 2/20/90

TIME: 1308

DIRECTION OF
PHOTOGRAPH:

Northeast

WEATHER
CONDITIONS:

high 40's

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: Pond 2 ; Bottom ash pond

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo Plant

PAGE 9 OF 12

U.S. EPA ID: OH0980423347 TDD: F05-8805-020

PAN: F0H0828SB

DATE: 2/20/90

TIME: 1312

DIRECTION OF
PHOTOGRAPH:

east

WEATHER
CONDITIONS:

high 40's

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: Fly Ash Pond (center) which is located outside
the site's fence.

DATE: 2/20/90

TIME: 1312

DIRECTION OF
PHOTOGRAPH:

south

WEATHER
CONDITIONS:

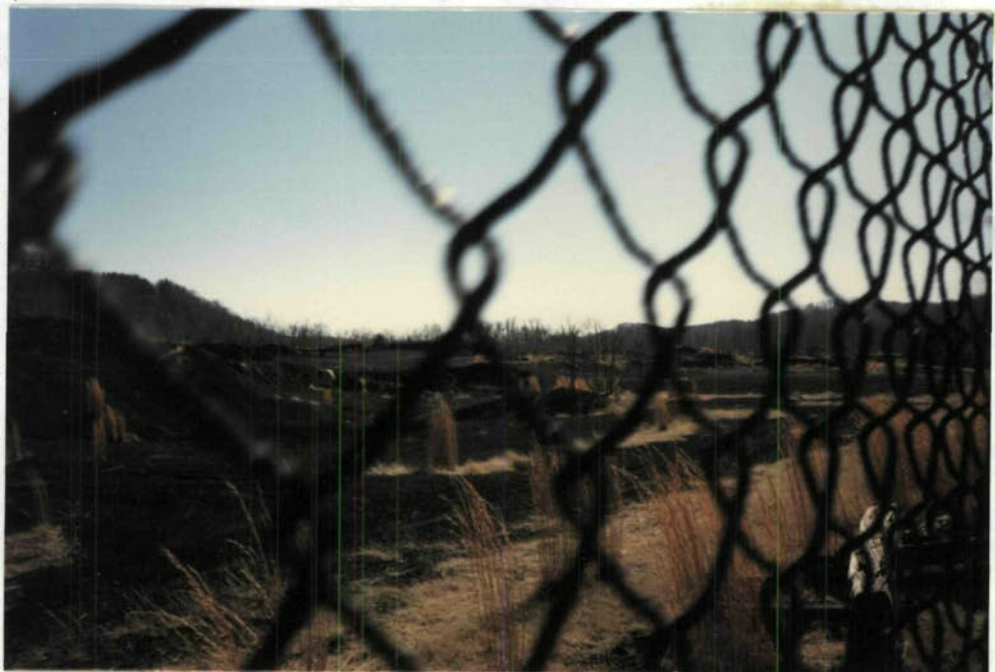
high 40's

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: Fly Ash Pond (southern direction) viewed
from inside the site's fence.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo Plant

PAGE 10 OF 12

U.S. EPA ID: OH0980423347 TDD: F05-8805-020

PAN: F0H0828SB

DATE: 2/20/90

TIME: 1314

DIRECTION OF
PHOTOGRAPH:
northwest

WEATHER
CONDITIONS:
high 40's

Sunny

PHOTOGRAPHED BY:
Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: Demolition debris pile

DATE: 2/20/90

TIME: 1310

DIRECTION OF
PHOTOGRAPH:
North

WEATHER
CONDITIONS:
high 40's

Sunny

PHOTOGRAPHED BY:
Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: Demolition debris pile, barrel, old railroad tracks
and substation.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo Plant

PAGE 11 OF 12

U.S. EPA ID: OHD98042347 TDD: F05-8805020

PAN: F0H0828SB

DATE: 2/20/90

TIME: 1311

DIRECTION OF
PHOTOGRAPH:

west

WEATHER
CONDITIONS:

high 40s

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: Remains of where railroad use to exist. Residential
area of the town of Philo behind the trees

DATE: 2/20/90

TIME: 1302

DIRECTION OF
PHOTOGRAPH:

South

WEATHER
CONDITIONS:

high 40s

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID
(if applicable):



DESCRIPTION: Remains of gantry where coal piles were kept.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Philo Plant

PAGE 12 OF 12

U.S. EPA ID: OH D980423347 TDD: F05-8805-020

PAN: F040828SB

DATE: 2/20/90

TIME: 1310

DIRECTION OF
PHOTOGRAPH:

Southeast

WEATHER

CONDITIONS:

high 40s

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID

(if applicable):



DESCRIPTION: Remains of a cardumper for coal.

DATE: 2/20/90

TIME: 1308

DIRECTION OF
PHOTOGRAPH:

South

WEATHER

CONDITIONS:

high 40s

Sunny

PHOTOGRAPHED BY:

Tracy Gray

SAMPLE ID

(if applicable):



DESCRIPTION: Steelings basin

APPENDIX D

U.S. EPA TARGET COMPOUND LIST AND
TARGET ANALYTE LIST
QUANTITATION/DETECTION LIMITS

ADDENDUM A

**ROUTINE ANALYTICAL SERVICES
CONTRACT REQUIRED DETECTION AND QUANTITATION LIMITS**

Contract Laboratory Program
Target Compound List
Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/Kg
Bromomethane	74-83-9	10	10
Vinyl chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene chloride	75-09-2	5	5
Acetone	67-64-1	10	5
Carbon disulfide	75-15-0	5	5
1,1-dichloroethene	75-35-4	5	5
1,1-dichloroethane	75-34-3	5	5
1,2-dichloroethene (total)	540-59-0	5	5
Chloroform	67-66-3	5	5
1,2-dichloroethane	107-06-2	5	5
2-butanone (MEK)	78-93-3	10	10
1,1,1-trichloroethane	71-55-6	5	5
Carbon tetrachloride	56-23-5	5	5
Vinyl acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,2-dichloropropane	78-87-5	5	5
cis-1,3-dichloropropene	10061-01-5	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
Trans-1,3-dichloropropene	10061-02-6	5	5
Bromoform	75-25-2	5	5
4-Methyl-2-pentanone	108-10-1	10	10
2-Hexanone	591-78-6	10	10
Tetrachloroethene	127-18-4	5	5
Tolene	108-88-3	5	5
1,1,2,2-tetrachloroethane	79-34-5	5	5
Chlorobenzene	108-90-7	5	5
Ethyl benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Xylenes (total)	1330-20-7	5	5

Table A
Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Phenol	108-95-2	10 ug/L	330 ug/Kg
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	108-60-1	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-di-n-dipropylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethylphthalate	131-11-3	10	330
Acenaphthylene	208-96-8	10	330
2,6-Dinitrotoluene	606-20-2	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl-phenyl ether	7005-72-3	10	330

Table A
Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/Kg
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl-phenylether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butylphthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Pyrene	129-00-0	10	330
Butylbenzylphthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-1	20	660
Benzo(a)anthracene	56-55-3	10	330
Chrysene	218-01-9	10	330
bis(2-Ethylhexyl)phthalate	117-81-7	10	330
Di-n-octylphthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

Table A
Contract Laboratory Program
Target Compound List
Pesticide and PCB Quantitation Limits

COMPOUND	CAS #	WATER	SOIL
			SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/Kg
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor epoxide	1024-57-3	0.05	8
Endosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Endosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endosulfan sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Endrin ketone	53494-70-5	0.10	16
alpha-Chlordane	5103-71-9	0.5	80
gamma-chlordane	5103-74-2	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

Table A (Cont.)

CONTRACT LABORATORY PROGRAM
 TARGET ANALYTE LIST (TAL)
 INORGANIC DETECTION LIMITS

Compound	Procedure	Detection Limits	
		Water (µg/L)	Soil Sediment Sludge (mg/kg)
aluminum	ICP	200	40
antimony	furnace	60	2.4
arsenic	furnace	10	2
barium	ICP	200	40
beryllium	ICP	5	1
cadmium	ICP	5	1
calcium	ICP	5,000	1,000
chromium	ICP	10	2
cobalt	ICP	50	10
copper	ICP	25	5
iron	ICP	100	20
lead	furnace	5	1
magnesium	ICP	5,000	1,000
manganese	ICP	15	3
mercury	cold vapor	0.2	0.008
nickel	ICP	40	8
potassium	ICP	5,000	1,000
selenium	furnace	5	1
silver	ICP	10	2
sodium	ICP	5,000	1,000
thallium	furnace	10	2
tin	ICP	40	8
vanadium	ICP	50	10
zinc	ICP	20	4
cyanide	color	10	2

3767:1

APPENDIX E

WELL LOGS OF THE AREA OF THE SITE

WELL LOG AND DRILLING REPORT

WL1

ORIGINAL

PLEASE USE PENCIL
OR TYPEWRITER
DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No 295303

County Washington Township Harrison Section of Township _____

Owner Ohio Power Address Philo Ohio

Location of property Philo Ohio

CONSTRUCTION DETAILS

Casing diameter 38" x 26 Length of casing 55' 0
Type of screen 1/4" mesh Length of screen 10' 0
Type of pump 7
Capacity of pump 900 G.P.M.
Depth of pump setting 7
Date of completion 5-1-63

BAILING OR PUMPING TEST

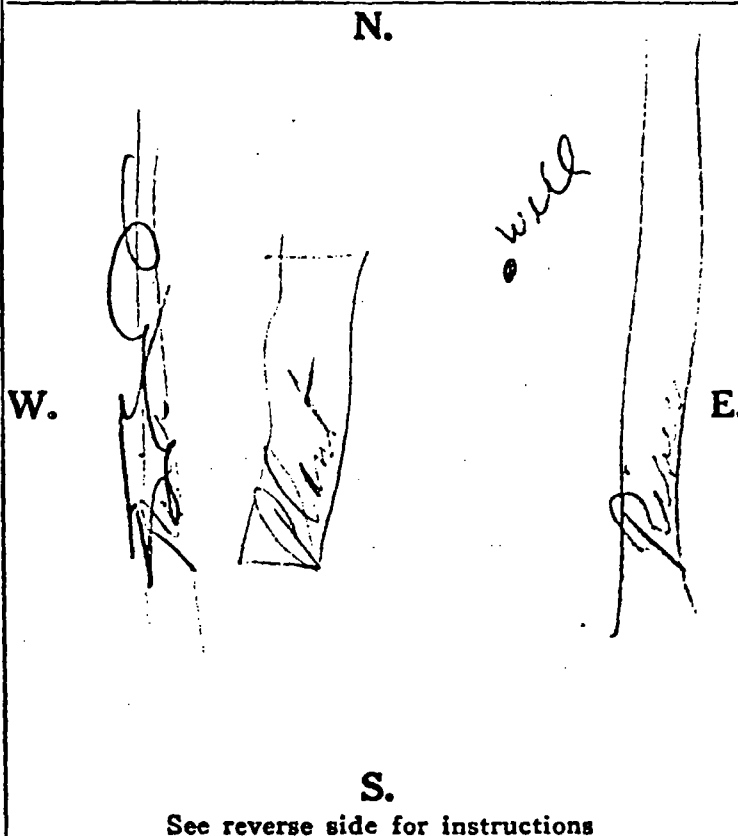
Pumping Rate 400 G.P.M. Duration of test 8 hrs.
Drawdown 16' 0 ft. Date 5-1-63
Static level-depth to water 38' 0 ft.
Quality (clear, cloudy, taste, odor) _____
Pump installed by 7

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
<u>Top soil</u>	<u>0 Feet</u>	<u>5' Ft.</u>
<u>Cinders</u>	<u>5' 0</u>	<u>15' 0</u>
<u>Sand & Gravel</u>	<u>15' 0</u>	<u>20' 0</u>
<u>Yellow clay</u>	<u>20' 0</u>	<u>40' 0</u>
<u>Yellow sand</u>	<u>40' 0</u>	<u>55' 0</u>
<u>Yellow s. & clay</u>	<u>55' 0</u>	<u>65' 0</u>
<u>clay</u>	<u>65' 0</u>	<u>66' 0</u>

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Layne Ohio Co

Address 1600 Ohio

Date 6-4-63

Signed Q. M. M.

WEL LOG AND DRILLING REPORT

WL2

ORIGINAL

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

445147

County Muskingum Township Harrison Section of Township _____

Owner NON RESPONSIVE Address NON RESPONSIVE

Location of property NON RESPONSIVE

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 37'
Type of screen _____ Length of screen _____
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion July 20, 1973

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 4 G.P.M. Duration of test 6 hrs
Drawdown 160 ft. Date _____
Static level-depth to water 255 ft.
Quality (clear, cloudy, taste, odor) Clear
Pump installed by _____

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Soil	0 Feet	3 Ft.
Brown Clay	3	12
Gray Clay	12	18
Gray Shale	18	22
Gray Sandy Shale	22	31
Gray Sand Rock	31	37
Gray Sandy Shale	37	57
Red Shale	67	62
Brown Sandy Shale	62	68
Showing of Gas	62	68
Gray Sandy Shale	68	73
Brown Sandy Shale	73	84
Gray Sandy Shale	84	92

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

N
NON RESPONSIVE

Drilling Firm Suburban Drilling Company
Address 1950 East Pike, Zanesville, O.

Date July 25, 1973

Signed B. N. White

*If additional space is needed to complete well log, use next consecutive numbered form.

PLEASE USE PENCIL
OR TYPEWRITER
DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

WL3

Nº 318886

County Muskingum Township Harrison Section of Township _____

Owner **NON RESPONSIVE** Address **NON RESPONSIVE**

Location of property **NON RESPONSIVE**

CONSTRUCTION DETAILS

Casing diameter 6 $\frac{5}{8}$ Length of casing 19' 4"
Type of screen None Length of screen _____
Type of pump None Set
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

BAILING OR PUMPING TEST

Pumping Rate 2 G.P.M. Duration of test 2 hrs.
Drawdown 114 ft. Date Dec 12-64
Static level-depth to water 74 ft.
Quality (clear, cloudy, taste, odor) clear
Pump installed by _____

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Brown shale	0 Feet	3 Ft.
red clay	3	7
Red Rock	7	18
Limestone	18	67
Gray shale	67	75
Soft Gray shale	75	82
Coal	82	85
Sand Rock	85	87
Gray Sandy Shale	87	99
Red Rock	99	106
Gray Sandy Shale	106	114
Water at	98	
Total Depth	114	

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

NON RESPONSIVE

See reverse side for instructions

Drilling Firm Anderson Water Dr.
Address Rt. #2 Willow Dr.
Zanesville

Date Dec 12-1964
Signed Robert Anderson

WEI' LOG AND DRILLING REPORT

ORIGINAL

WLS

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

462146

County Muskingum Township Harrison Section of Township _____
Owner Muskingum River Park Area Address P.O. Box 2806; Zanes., Oh. 43701
Location of property Philo Locktender's House, Philo, Ohio 43771

CONSTRUCTION DETAILS			BAILING OR PUMPING TEST (Specify one by circling)	
Casing diameter <u>6-5/8"</u>	Length of casing <u>34'</u>		Test Rate <u>2</u> G.P.M.	Duration of test <u>2</u> hrs.
Type of screen <u>Slots</u>	Length of screen <u>2'</u>		Drawdown <u>73</u> ft.	Date <u>11/3/75</u>
Type of pump _____			Static level-depth to water <u>21'</u> ft.	
Capacity of pump _____			Quality (clear, cloudy, taste, odor) <u>Clear</u>	
Depth of pump setting _____				
Date of completion <u>11/6/75</u>			Pump installed by _____	
WELL LOG*			SKETCH SHOWING LOCATION	
Formations Sandstone, shale, limestone, gravel and clay	From	To	Locate in reference to numbered State Highways, St. Intersections, County roads, etc.	
<u>Top</u>	<u>0 Feet</u>	<u>3 Ft.</u>	<u>N.</u>	
<u>Brown Clay</u>	<u>3</u>	<u>7</u>		
<u>Brown Sand</u>	<u>7</u>	<u>17</u>		
<u>Brown Sand & Sm. Gravel</u>	<u>17</u>	<u>22</u>		
<u>Brown Sand</u>	<u>22</u>	<u>27</u>		
<u>Gray Shale</u>	<u>27</u>	<u>33</u>		
<u>Gray Sandy Shale</u>	<u>33</u>	<u>56</u>		
<u>Gray Shale</u>	<u>56</u>	<u>65</u>		
<u>Coal Blossom</u>	<u>65</u>	<u>69</u>		
<u>Showing of Coal</u>	<u>69</u>	<u>71</u>		
<u>Gray Shale</u>	<u>71</u>	<u>75 TD</u>		
<u>1 GPM at 28'</u>			<u>S.</u>	
<u>1 GPM at 61'</u>				

Drilling Firm Suburban Drilling Co., Inc. Date November 14, 1975
Address 1950 East Pike
Zanesville, Ohio 43701
Signed Bill H. White
(TR)

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL

Nº. 352615

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

NOT USE INK.

County MacKenzie Township WAYNE Section of Township 30

Owner Dunlop ASS., INC Address Runcan Falls, Ohio

Location of property On South side of East Roesner Street in Duncan Falls, Ohio

CONSTRUCTION DETAILS

Casing diameter 12 1/2" Length of casing 98'6"
Type of screen 304 Stainless Length of screen 10'
Type of pump 2160 SPT Turbine
Capacity of pump 200 GPM @ 183'
Depth of pump setting 91'
Date of completion 9-3-66

BAILING OR PUMPING TEST

Pumping Rate 200 G.P.M. Duration of test 24 hrs.
Drawdown 4'3"-5' ft. Date 9-2-66
Static level-depth to water 6.5' ft.
Quality (clear, cloudy, taste, odor) clear no
odor
Pump installed by Driller

WELL LOG*

[illegible]

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

N.

NEW
SCHOOL



ROEMER ST.



WELL

MOUND ROAD

SANDY ZIMMER

W.

S.

See reverse side for instructions

Drilling Firm R. C. Ramsey

Date 9-5-66

Address RT 6
Zanesville, Ohio

Signed PC Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL
Municipal

ORIGINAL

DEPARTMENT OF NATURAL RESOURCES

№ 360970

Division of Water

1562 W. First Avenue
Columbus, Ohio 43212

WL7

PLEASE USE PENCIL
OR TYPEWRITER

D **NOT USE INK.**

County Muskingum Township Harrison Section of Township

Owner Village of Philo, Address Philo, Ohio

Location of property 1/4 Mile South of Philo, on Co. Rd. 6

BAILING OR PUMPING TEST

Casing diameter 10" Length of casing 42'

Bailed @ _____
Pumping Rate 60 G.P.M. Duration of test _____ hrs.

Type of screen Slots Length of screen 5'

Drawdown.....7 ft. Date.....

Type of pump.....

Static level-depth to water.....11.....ft.

Capacity of pump_____

Quality (clear, cloudy, taste, odor) Clear

Depth of pump setting.....

Pump installed by.....

Date of completion..... June 24, 1967.....

Pump installed by.....

SKETCH SHOWING LOCATION

Formations
Sandstone, shale, limestone,
gravel and clay

From

To

and Gravel

0 Feet

36FL

3 Ft. Bridge in Bottom

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

N.

W.

E.

S.

See reverse side for instructions

Drilling Firm Suburban Drilling Co.

Date June 26, 1967

Address 1950 E. Pike, Zanesville, Ohio

Signed B. H. White

*If additional space is needed to complete well log, use next consecutive numbered form.

Industrie L



WELL LOG AND DRILLING REPORT

WL 8

NO. 95560

County Maskingum Township Harrison Section of Township 31
Owner Philo Village Corp. Address Philo, Ohio
Location of property 400' S. of Philo Corp. limits near Co. Rd. #6

CONSTRUCTION DETAILS

BAILING OR PUMPING TEST

Casing diameter 10" Length of casing 70' Pumping rate 75 G.P.M.
Type of screen Johnson Length of screen 10' Duration of test 38 1/2 Hrs.
60 slot
Type of pump Deming Turbine Drawdown 17 ft. Date _____
Capacity of pump 50 GP⁴⁴ Developed capacity 75 GPM
Depth of pump setting 70' Static level - depth to water 52 Ft.
Date of completion _____ Pump installed by _____

WELL LOG			SKETCH SHOWING LOCATION
Formation	From	To	
Fine Sand & Loam	0	47	
Sand & Fine Gravel	47	50	
Fine Sand	50	65	
Sand & Fine Gravel	65	80	
Total depth 80'			

Drilling Firm S.M. Ebersbach Date July 18, 1952
Address 2195 East Pike Zanesville, Ohio Copied by J.C.

WELL LOG AND DRILLING REPORT

WL9

ORIGINAL

LEASE USE PENCIL
OR TYPEWRITERState of Ohio
DEPARTMENT OF NATURAL RESOURCES

No 345935

DO NOT USE INK.

Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

Designated #7 well

County MUSKINGHAM Township JEFFERSON Section of Township _____Owner Ohio Ferro-Alloys Corp. Address Philto OhioLocation of property 60 FT West of MUSKINGHAM River + 1 1/2 Mi South of R. 555

CONSTRUCTION DETAILS

Casing diameter 24" x 16" Length of casing 41' 9"
Type of screen Proline Length of screen 20'
Type of pump Deep Well Turbine
Capacity of pump Test
Depth of pump setting 52 FT
Date of completion Nov. 12 - 1948

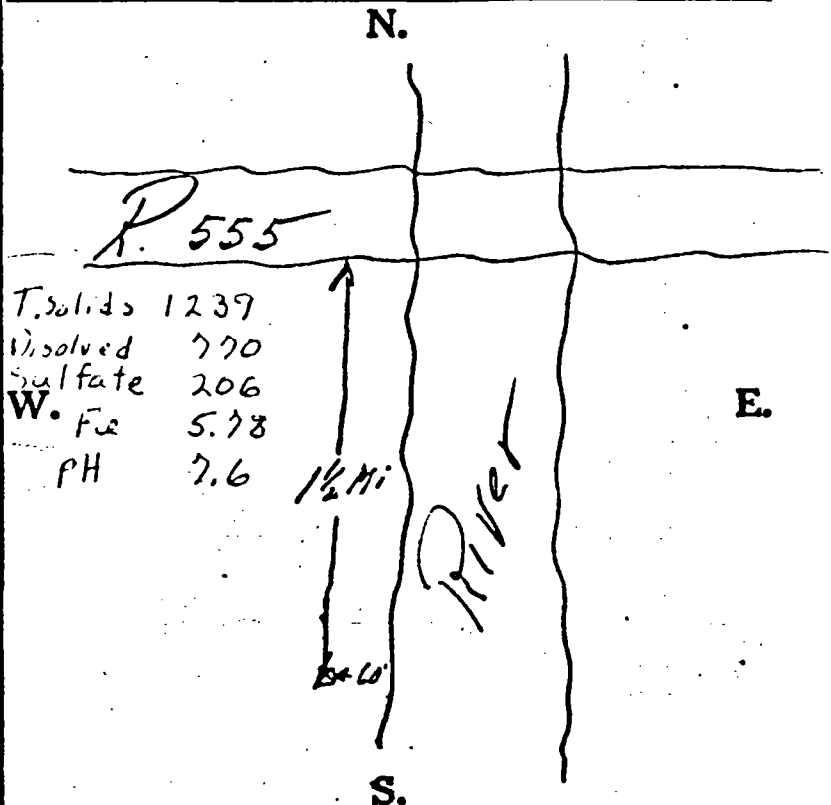
BAILING OR PUMPING TEST

Pumping Rate 800 G.P.M. Duration of test 8 1/2 hrs.
Drawdown 12 ft. Date Nov. 12 - 1948
Static level-depth to water 17 ft.
Quality (clear, cloudy, taste, odor) _____
Pump installed by Bob Harold

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
<u>Sh. & Stones</u>	<u>0 Feet</u>	<u>18 Ft.</u>
<u>Gravel + Sand</u>	<u>18</u>	<u>27</u>
<u>Sand + Gravel</u>	<u>27</u>	<u>36</u>
<u>Sand</u>	<u>36</u>	<u>45</u>
<u>Sand + Gravel</u>	<u>45</u>	<u>47</u>
<u>Sand</u>	<u>47</u>	<u>50</u>
<u>Sand + Gravel</u>	<u>50</u>	<u>67</u>

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

T. Solids 1239
 Dissolved 770
 Sulfate 206
 W. Fe 5.78
 PH 7.6

See reverse side for instructions

Drilling Firm The Ohio Drilling Co.Date JAN 10 - 1949Address Messimer OhioSigned J. H. H. H. H.

*If additional space is needed to complete well log, use next consecutive numbered form.